Introducing the **V4HD**

HD and SD video IO for Mac and windows

With one simple plug-and-play FireWire connection, the V4HD turns your Mac or PC desktop or laptop computer into a powerful HD/SD video production workstation equipped with all the video and audio I/O you need.

Connect all your gear, from SD camcorders and monitors to today's latest professional HD cameras, video decks, LCD reference monitors and plasmas – all at the same time, with no cable swapping. Choose your input source, then log and capture HD or SD clips directly into Final Cut Pro or Premiere Pro.

In Final Cut Pro, the V4HD supports full-raster 1920x1080 HD capture and playback using Apple's ProRes 422 codec in both standard and HQ modes. The V4HD is the ideal all-in-one video capture solution for any ProRes workflow. In both Final Cut Pro and Premiere Pro, the V4HD provides hardware-accelerated capture and playback of DVCProHD, DVCPro50 and DVCPro25 video streams, plus 8- and 10-bit uncompressed SD — all with convenient plug-and-play FireWire connectivity and CPU-efficient intra-frame editing.

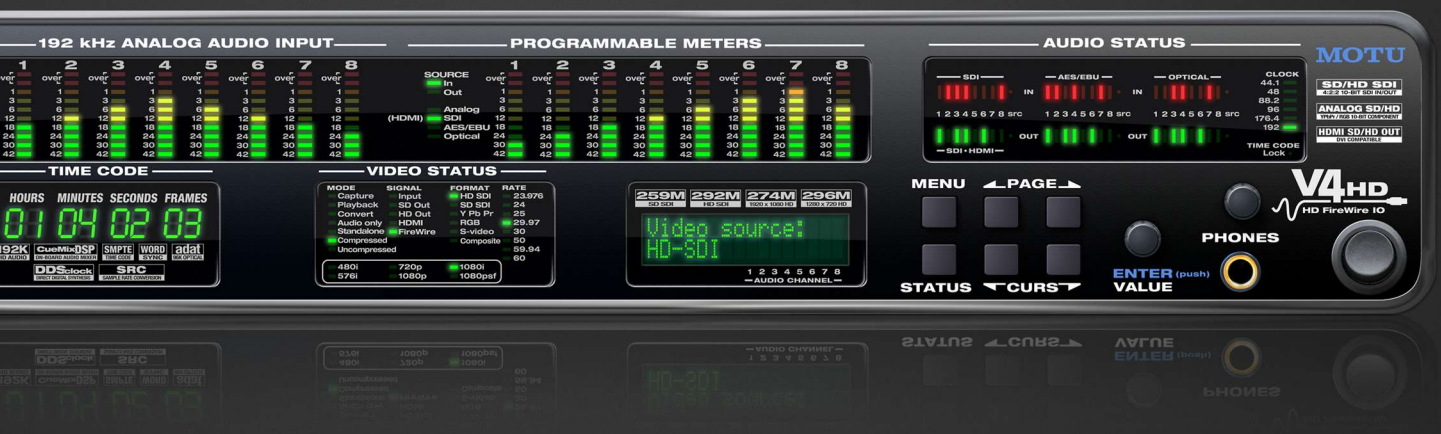
The V4HD is ideal for a DVCProHD/P2 workflow because you can immediately play back P2 clips (either imported or ingested) with no transcoding necessary. Conversely, you can connect any SD or HD video source such as an HDV camera, legacy video deck or DVD player and then capture it directly as a DVCProHD clip in Final Cut or Premiere. Many cameras now feed their uncompressed SDI or component output directly from the camera's imager, before compression, for the best-possible picture quality during capture with the V4HD. Need to bring SD material into your HD project? The V4HD even provides hardware-accelerated SD-to-HD up conversion for capturing SD sources in DVCProHD format.

As you edit, monitor your timeline on multiple HD and SD displays simultaneously with the V4HD's hardware-accelerated up-conversion, down-conversion and pull-down insertion or removal. Watch a variety of display formats side by side, from the pixel-for-pixel accuracy of a large plasma screen, to the color-corrected balance of an LCD reference monitor, to the real-world look of a consumer display. Use 32 channels of audio I/O to capture, monitor, mix and master multichannel surround sound for your productions at sample rates up to 192 kHz. Employ Sony 9-pin machine control for advanced Batch Capture and Edit to Tape operations. Keep everything frame-accurate using time code, video reference and audio word clock.

The V4HD delivers all this with one simple FireWire 400 or 800 connection — even to a laptop computer. With the V4HD handling video I/O via FireWire, your laptop's expansion slot can be used for high-performance video storage solutions.

From start to finish, the V4HD streamlines your video production workflow, with unified control over all your video gear from your computer desktop.

HD and SD video IO for Mac and Windows



CHOOSE YOUR WORKFLOW

ProRes

In Final Cut Pro, the V4HD provides full-raster 1920 x 1080 HD capture and playback using Apple's ProRes 422 codec in both standard and HQ modes. Edit and monitor in HD and SD simultaneously with hardware-accelerated up-/down-conversion.The V4HD is the ideal all-in-one video capture solution for your Apple ProRes workflow.

XDCAM

The Sony PMW-EX1 XDCAM EX camera captures stunning full-raster 1080 HD footage. Ingest via the V4HD's HD-SDI input to capture, monitor and edit your full-raster EX1 material as ProRes clips in Final Cut Pro. Or import EX1 clips directly into Final Cut Pro for full-raster monitoring.

HDV

HDV presents challenges when it comes to native editing. Overcome them by capturing your HDV footage with the V4HD via SDI or component as ProRes or DVCProHD. Then edit with intra-frame speed and stunning 10-bit 4:2:2 quality that holds up during compositing. Deliver in any broadcast quality format you wish.

P2HD

The V4HD is perfect for your P2HD workflow because it provides hardware accelerated DVCProHD capture and playback with up- and down-conversion. You can import P2 clips and then monitor in HD and SD immediately, without the need to transcode first. Ingest other sources (such as HDV cameras) directly into your timeline as DVCProHD.

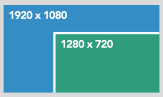
V4HD

v4hd.com

AWARD-WINNING FEATURES

- HD/SD FireWire video interface for Mac/Windows — provides HD and SD capture and playback for any current-generation FireWire-equipped computer
- Plug-and-play connectivity — connects to either a desktop tower or a portable laptop
- Supports Apple Final Cut Pro and Adobe Premiere Pro
- Captures and plays all standard HD/SD formats up to and including 1080p30 (720p, 1080i, 1080p & 1080PsF)
- Hardware-accelerated DVCPro capture/playback (DVCProHD/P2, DVCPro50 and DVCPro25)
- ProRes 422 capture and playback in Final Cut Pro (standard and HQ modes, full-raster 1920x1080 HD)
- Pristine HD quality and efficient editing — ProRes and DVCProHD provide 10-bit 4:2:2 broadcast quality color and CPU-efficient, intra-frame native editing
- Captures and plays uncompressed SD — 8-bit or 10-bit NTSC or PAL
- HDMI out — connect a large-format HD plasma or reference LCD for flexible and affordable “pixel for pixel” HD monitoring
- Broadcast quality hardware-accelerated SD-to-HD up-convert and HD-to-SD down-convert with pull-down insertion/removal
- Comprehensive up/down conversion formatting — anamorphic, pillar box, letterbox, 14:9 pillarbox, 14:9 letterbox and full screen
- Hardware-accelerated 2:3 or 2:3:3:2 pull-down insertion and removal — go between film and NTSC rates in real time, with no rendering required
- Simultaneous HD/SD operation — connect multiple HD and SD sources and destinations. Switch HD/SD sources on the fly while converting to multiple HD/SD outputs. All outputs are “hot”, regardless of source format.
- Stand-alone operation — converts and distributes selected input source to all supported output formats
- Two rack space chassis with removable rack ears — rack mount or desktop operation
- Time code in/out — generate and resolve to time code in all formats, including LTC, VITC (SD analog), D-VITC (SD-SDI) and embedded (SD/HD-SDI)
- RS-422 machine control — control any Sony 9-pin device from FCP or Premiere
- Comprehensive 32-channel audio I/O with on-board digital mixing, 8-channel SDI and HDMI embedding/de-embedding, sample rate conversion and much more.
- Field upgradable firmware via USB

ProRes 422
FULL RASTER ProRes WORKFLOW



Work with full-raster ProRes in Final Cut Pro.

P2HD

Work with hardware-accelerated DVCProHD capture and monitoring in Premiere Pro CS3 on Windows or Final Cut Pro on the Mac.

Digital Video DV BLACK DIAMOND AWARD 2008

The V4HD includes the same features as the award-winning V3HD, plus much more.

V4HD specifications

Video I/O

- 1 x HD-SDI in and out (4:2:2 10-bit) on independent BNC connectors
- 1 x SD-SDI in and out (4:2:2 10-bit) on independent BNC connectors
- 1 x extra HD-SDI output connector
- 1 x extra SD-SDI output connector
- 1 x HDMI output (4:2:2 10-bit, YCbCr or RGB)
- Support for DVI output with HDMI-to-DVI adapter (sold separately)
- 1 x HD component in and out (10-bit, YPbPr or RGB) on independent BNCs
- 1 x SD component in and out (10-bit, YPbPr or RGB) on independent BNCs
- 1 x composite in and out (10-bit)
- 1 x S-video in and out (10-bit)
- 12-bit A/D and D/A converters on all analog video in/out

Video formats

- SD — 576i25 (PAL), 480i29.97 and 486i29.97 (NTSC)
- HD — 720p23.976, 720p24, 720p25, 720p29.97, 720p30, 720p50, 720p 59.94, 720p60, 1080p23.976, 1080p24, 1080p25, 1080p29.97, 1080p30, 1080PsF23.976, 1080PsF24, 1080PsF25, 1080PsF29.97, 1080PsF30, 1080i25, 1080i29.97, 1080i30
- Apple ProRes 422 support in Final Cut Pro — standard or HQ modes. Also supports any similar full-raster video format supported by Final Cut Pro with a 10-bit 4:2:2 color space and a compression ratio similar to ProRes (approximately 6:1 or higher).
- Supported DVCProHD formats — 720p23.976, 720p24, 720p25, 720p29.97, 720p30, 720p50, 720p 59.94, 720p60, DVCProHD 1080i50 (1440 x 1080) and 1080i60 (1280 x 1080) at all 1080i frame rates listed on this page
- Supported Final Cut Pro and Premiere Pro SD formats — Uncompressed 8-bit and 10-bit, DVCPro and DVCPro 50 at 480p23.976, 480i29.97 and 576i25
- Supports 480p23.976 SD capture/playback with pull-down insertion/removal.

Audio I/O

- 32 channels of simultaneous audio input and output
- 8 channels of analog in/out at all standard sample rates from 44.1 to 192kHz
- 4 x XLR analog in/out — 4-channel direct connection without a breakout cable
- 8 channels of AES/EBU digital in/out at sample rates up to 96kHz
- 2 x AES/EBU connectors — 4-channel connection with no breakout cable
- 8-channel HD-SDI and SD-SDI embedded audio in/out, 24-bit at 44.1 or 48kHz
- 8-channel HDMI embedded audio output, 24-bit at 44.1 or 48kHz
- 8-channel ADAT optical digital audio in/out — includes a second bank of optical connectors for 8-channel operation at sample rates up to 96kHz
- Embeds SDI / HDMI multi-channel audio streams; de-embeds SDI audio input
- Flexible 8-channel sample rate conversion — apply rate conversion to any 8-channel digital input/output bank, including AES/EBU, embedded & optical
- Front panel headphone jack with dedicated volume control
- Programmable front panel volume control for up to 32 audio outputs —- control output level for any/all outputs, from stereo main outs to 7.1 surround to all 32 outs
- CueMix DSP™ built-in monitor mixer — 32-channel, 16-bus mixer for monitoring live inputs from cameras, mic preamps or other audio sources with no delay. Set up send/return loops to digital mixers and outboard audio processing.
- Multiple CueMix DSP mixes — create 16 separate stereo monitor mixes (8 stereo at 176.4 or 192kHz) for main outs, headphones, outboard gear send/return loops, etc.
- Audio delay compensation — both fully automated and programmable controls ensure that audio always remains perfectly in sync with picture
- Audio only mode — operates as a 32 channel cross-platform audio interface
- Stand-alone operation — mix and monitor with no computer connected

Sync and device control

- Video ref in / thru — resolve to blackburst, composite or HD Tri-level sync
- Time code in/out — generate and resolve to time code in all formats, including LTC, VITC (SD analog), D-VITC (SD-SDI) and embedded (SD/HD-SDI)
- RS-422 machine control — control the transports of a connected camera or video deck from Final Cut or Premiere via standard 9-pin protocol
- Word clock in, out and thru — continuously resolve to audio word clock from a digital mixer or other source at sample rates from 44.1 to 192K
- Direct Digital Synthesis — DSP phase lock engine provides ultra-low jitter
- Field upgradable firmware via USB
- International auto-switching internal power supply

Front panel programming and monitoring

- Access to most settings directly from the front-panel 2 x 16 backlit LCD
- 8 dedicated 10-segment ladder LEDs for 8 analog audio ins
- 8 programmable 10-segment ladder LEDs with clip indicators for displaying any 8-channel bank (analog, AES/EBU, optical or embedded) in or out
- Video status LEDs — for quick overview of current capture/playback settings
- Time code display — provides frame-accurate time code readout when converting or generating time code, or during playback from host software

Included software and compatibility

- Includes MOTU Video Console software — graphically displays HD and SD signal path and provides complete control of all programmable features and settings
- Includes MOTU CueMix Console software — provides on-screen mixing of all 32 audio channels of analog and digital input and output via graphic mixer with 32 faders
- Cross-platform operation (Mac OS X, Windows XP, Windows Vista)
- Supports Final Cut Pro 5.1.4 or higher
- Supports Adobe Premiere Pro 3.1 or higher (Windows)

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